

What is claimed is:

- 1 1. A self-aligning structure for use in measuring the quality of an encoded indicium,  
2 comprising:  
3 a hollow chamber comprising:  
4 a first surface defining a first aperture, the first aperture representing a viewing  
5 area of an imager used to obtain an image of the encoded indicium;  
6 a second surface defining a second aperture, the second aperture configured to  
7 support the imager in a position to obtain the image of the encoded indicium;  
8 at least one source of illumination situated within the hollow chamber, the at least  
9 one source of illumination configured to illuminate the encoded indicium; and  
10 an illumination control operatively coupled to control the at least one source of  
11 illumination;  
12 the hollow chamber configured to be positioned adjacent the encoded indicium such  
13 that, when the encoded indicium is positioned within the viewing area, when an  
14 imager is supported in the second aperture, and when the at least one illumination  
15 source is properly controlled, the structure is self-aligned and the imager can  
16 obtain at least one image of the encoded indicium from which image the quality  
17 of the encoded indicium can be measured.
- 1 2. The self-aligning structure according to claim 1, wherein the hollow chamber is  
2 configured to exclude extraneous illumination when the imager is present and the  
3 hollow chamber is positioned adjacent the encoded indicium.
- 1 3. The self-aligning structure according to claim 1, wherein the hollow chamber is  
2 configured to support the imager in a defined position relative to the encoded  
3 indicium.
- 1 4. The self-aligning structure according to claim 3, wherein the defined position  
2 comprises a defined distance.
- 1 5. The self-aligning structure according to claim 3, wherein the defined position  
2 comprises a defined angle.
- 1 6. The self-aligning structure according to claim 1, wherein the hollow chamber is

2 constructed in a plurality of sections, a first section comprising the first surface  
3 defining the first aperture representing the viewing area of the imager of the encoded  
4 indicium, and a second section comprising the second surface defining the second  
5 aperture configured to support the imager in the position to obtain the image of the  
6 encoded indicium.

- 1 7. The self-aligning structure according to claim 1, wherein the hollow chamber is  
2 configured to remain mechanically stable when the imager is positioned within the  
3 second aperture.
- 1 8. The self-aligning structure according to claim 1, wherein the hollow chamber further  
2 comprises an optical sensor configured to receive illumination from the at least one  
3 source of illumination for the purpose of confirming an illumination characteristic  
4 provided by the at least one source of illumination.
- 1 9. The self-aligning structure according to claim 8, wherein the illumination  
2 characteristic provided by the at least one source of illumination is a characteristic  
3 selected from an illumination intensity at a selected time and an illumination  
4 wavelength.
- 1 10. An image quality verifier system useful for verifying the quality of an encoded  
2 indicium, comprising:  
3 an imager for obtaining an image of the encoded indicium; and  
4 a self-aligning structure comprising:  
5 a hollow chamber comprising:  
6 a first surface defining a first aperture, the first aperture representing a viewing  
7 area of the imager;  
8 a second surface defining a second aperture, the second aperture configured to  
9 support the imager in a position to obtain the image of the encoded indicium;  
10 at least one source of illumination situated within the hollow chamber, the at least  
11 one source of illumination configured to illuminate the encoded indicium; and  
12 an illumination control operatively coupled to control the at least one source of  
13 illumination;  
14 whereby the imager obtains at least one image of the encoded indicium from which  
15 image the quality of the encoded indicium can be measured when the encoded

- 16 indicium is positioned within the viewing area, the imager is supported in the  
17 second aperture, and the at least one illumination source is properly controlled.
- 1 11. The image quality verifier system according to claim 10, wherein the imager  
2 comprises a sensor having a linear array of photosensitive elements.
- 1 12. The image quality verifier system according to claim 10, wherein the imager  
2 comprises a sensor having a two-dimensional array of photosensitive elements.
- 1 13. The image quality verifier system according to claim 10, wherein the imager is a  
2 selected one of a one-dimensional bar code reading apparatus and a two-dimensional  
3 bar code reading apparatus.
- 1 14. The image quality verifier system according to claim 10, further comprising an  
2 analysis module configured to provide a measure of quality of a parameter of an  
3 encoded indicium undergoing verification relative to the same parameter of the  
4 reference encoded indicium.
- 1 15. The image quality verifier system according to claim 14, further comprising a  
2 memory module configured to record data indicative of a parameter of the reference  
3 encoded indicium.
- 1 16. The image quality verifier system according to claim 10, wherein the hollow chamber  
2 is configured to remain mechanically stable when the imager is positioned within the  
3 second aperture.
- 1 17. The image quality verifier system according to claim 10, wherein the hollow chamber  
2 further comprises an optical sensor configured to receive illumination from the at least  
3 one source of illumination for the purpose of confirming an illumination characteristic  
4 provided by the at least one source of illumination.
- 1 18. The image quality verifier system according to claim 17, wherein the illumination  
2 characteristic provided by the at least one source of illumination is a characteristic  
3 selected from an illumination intensity at a selected time and an illumination  
4 wavelength.
- 1 19. A method of measuring the quality of an encoded indicium, comprising the steps of:  
2 providing a self-aligning structure for positioning an imager in relation to an  
3 encoded indicium, the self-aligning structure configured to permit the imager  
4 to view the encoded indicium and configured to exclude ambient light;

5 illuminating the encoded indicium with at least one source of illumination  
6 contained within the self-aligning structure;  
7 operating the imager to obtain at least one image of the encoded indicium; and  
8 measuring the quality of the encoded indicium from the image.

- 1 20. The method of claim 19, wherein the step of providing a self-aligning structure  
2 comprises:

3 positioning the self-aligning structure relative to an encoded indicium so that the  
4 encoded indicium is situated so as to be visible within a first aperture defined  
5 in a first surface of the self-aligning structure; and  
6 positioning the imager within a second aperture defined in a second surface of the  
7 self-aligning structure.

- 1 21. The method of claim 19, further comprising the step of:

2 measuring a reference encoded indicium to obtain a reference parameter for  
3 calibrating the quality measurement.

- 1 22. The method of claim 19, further comprising the step of:

2 monitoring a characteristic of the illumination provided by the at least one source  
3 of illumination.

- 1 23. The method of claim 22, wherein monitoring a characteristic of the illumination  
2 provided by the at least one source of illumination comprises monitoring a selected  
3 one of an illumination intensity at a selected time and an illumination wavelength.